

CLAIMS

1. A crystal growing method comprising the steps of:

forming a step-terrace structure on a SiC surface and then removing an oxide film from the surface; and

performing at least one cycle of a process of irradiation of Si or Ga under high vacuum and then heating, and then growing a Group III nitride.

2. The crystal growing method according to claim 1, wherein the step of growing a Group III nitride is performed at a temperature lower than the temperature of the substrate during the heating step.

3. A crystal growing method comprising the steps of:

forming a flat and clean SiC surface; and

growing a Group III nitride under high vacuum, wherein a Group III element is fed before nitrogen is fed.

4. A crystal growing method comprising the steps of:

forming a flat and clean SiC surface;

growing a Group III nitride under high vacuum, wherein a surface control element for controlling the mode of crystal growth of said Group III nitride on the SiC surface is fed first; and

feeding a Group III element and nitrogen, followed by the termination of the feeding of said surface control element.

5. The crystal growing method according to claim 4, wherein said surface control element is Ga or In.

6. A crystal growing method comprising the steps of:

controlling the SiC surface to acquire a step-terrace structure; and

removing an oxide film from the surface in an atmosphere of reduced oxygen partial pressure and growing a Group III nitride.

7. The crystal growing method according to any one of claims 1 to 6, wherein said SiC surface has an offset angle of 0 to 15° with respect to the (0001)_{Si} or (000-1)_C plane.

8. A stacked structure comprising:

an SiC layer;

a Group III nitride layer; and

Ga atoms or In atoms remaining between said SiC layer and said Group III nitride layer.